THE FROG TRADE MARK

"CIRRUS"

A 48" SPAN HIGH-PERFORMANCE CONTEST MODEL

FOR THE FROG "250" DIESEL, OR ANY OTHER MOTOR OF 1½-4c.c. CAPACITY.

See separate leaflet for Instructions, and note about Insurance.

SPECIFICATION:

SPAN ...	... 48in.
LENGTH ...	... 31¼in.
WING AREA ..	... 320 sq. ins.
TAIL AREA ...	... 117 sq. ins.
TOTAL AREA	... 437 sq. ins.
WING-LOADING	... 8oz. sq. ft.
O.A. LOADING	... 5·75oz. sq. ft.
ALL-UP WT. with FROG '250'	... 17-18 ozs.

Designed and Produced in England by
INTERNATIONAL MODEL AIRCRAFT LTD. CAT. No. 657/KP
MORDEN ROAD, MERTON, LONDON, S.W.19.

FROG "250" Diesel shown here. Any other motor of similar capacity and not exceeding 6 ozs all-up weight could be used

Parts shown thus— ○ —are ready cut and numbered on sheet balsa.

All parts are balsa unless otherwise stated.

Basic structure as in Fig. 1 shown shaded.

FIG. 16

FUSELAGE PLAN VIEW

Wing platform

Cut these pieces from 1/16in. sheet.

Top stringers (17)

Paper tubes for wing-bands

Fuel cut-off valve

cut away for clearness.

Slot for fin.

1/16in. ply.

FIG. 15

TAILPLANE IN "UP" POSITION TO ACT AS DETHERMALISER.

Fuse-operated D/T.

String fuse.

Elastic band.

Piece of Neoprene tubing in place of usual filler cap.

6° Inc.

Shaped upper keel piece.

Balsa piece cut to fit timer body.

Metal bracket for timer mounting.

FIG. 8 FUSELAGE REAR-END DETAIL.

2—1½in. x 1/8in. bands hold front of tail in place.

FIG. 14 VIEW SHOWING TAILPLANE HELD IN PLACE BY WIRE FROM D/T. TIMER.

Fin fits in slot in fuselage.

FIN

Bend over the ends.

Adjustable trim tab.

Wire piece to hold tail down.

Bend wire hooks to this shape and cement into place.

22g. Wire.

+3½° inc.

Top part of cowl should be detachable.

Cut these from spare sheet balsa

guide for wire.

Elastic bands.

Model should balance here.

Front part of fuselage covered with 1/16in. sheet

Timer operating lever.

Note slot formed in wire.

Main longerons 3/8in x 3/16in.

Stringers 3/16in. x 1/8in. hard balsa.

Downthrust. 4°—5°

Special internal threaded bolt.

Packing strips

Plastic spinner.

Ply nose-ring.

Drain hole.

Covering cut away to show U/c detail.

U/c. shown in retracted position.

D/T. timer. Tape this to spare piece of 3/32in. sheet before cementing in place.

3/16in. sq.

Wire from D/T timer to T/plane.

Rear end chamfered off.

Note packing strip under L.E.

Outer fins steady model when using single-wheel U/c.

TAILPLANE

1/8in. sq spars.

Guide blocks on U/side of tailplane.

Gussets, made from scrap

Centre covered with 1/16in. sheet.

Engine mounting bolts soldered to brass plate.

9in. x 6in. Airscrew.

1 3/4in dia. wheel

Cut this from brass Approx. .020in. thick.

FIG. 5A

Washers soldered on

8 BA bolts.

FIG. 5 RETRACTABLE U/C. SHOWN BOLTED TO PLY HALF BULKHEADS.

End crutch here if using back-plate engine mounting as in Fig. 3.

Soft balsa blocks cemented to centre piece and shaped.

Hardwood motor mounts

3/8in. x 3/16in. Packing strip

Cowl of balsa blocks shaped to fuselage contours after assembly

FIG. 1 BUILD FUSELAGE CRUTCH OVER PLAN, USING PINS TO HOLD THE STRIPS IN PLACE.

Ply piece cemented to bulkhead.

FIG. 2 CEMENT BULKHEADS INTO PLACE AGAINST CROSS-STRUTS.

FIG. 7 BULKHEAD SHOWING TIMER-FITTING.

Cut from 1/8in. sheet.

Cut these from 1/4in. sheet; shape after fixing.

FIG. 13 WING-HALVES SHOWN JOINED TOGETHER TO FORM ONE-PIECE, IF DESIRED.

Wing-band fixing.

Drain hole

FIG. 9 U/SIDE VIEW SHOWING HOLES FOR RETRACTABLE U/C.

Trailing Edge 3/4in. x 3/16in shaped.

Rear wing peg.

FIG. 3 ALTERNATIVE NOSE-CONSTRUCTION FOR BACK-PLATE MOUNTED MOTORS,

Make nose longer if a lighter engine is fitted

Wire clip made from 20g.

Groove in block for retaining bands

Paper tube to take motor-retaining bands.

Datum

FIG. 11 VIEW OF WING-TIP CONSTRUCTION.

Two layers 3/32in Balsa

FIG. 10 WING-ROOT CONSTRUCTION (PORT SIDE).

End caps with air holes

1/4in x 1/8in. strip. Reinforcing pieces.

Leading Edge shaped.

Trailing Edge 3/4in. x 3/16in shaped.

End rib must be set at this angle.

FIG. 4 VIEW OF CONSTRUCTION OF NOSE SHOWN IN FIG. 3

Engine Mount.

Paper tube to take motor-retaining bands.

Groove in block for retaining bands

2 Laminations 1 16in ply.

Shape of engine-mount, trace onto plywood

Edge of capping strips.

Leading edge planked with 1/16in. sheet balsa.

STARBOARD WING

Leading Edge shaped.

3 3/8in approx

Wing Dihedral.

5in.

Datum

7/8in approx.

8/16in. x 1/8in. strip.

Tip bn.

Two laminations for tip.

PORT WING

W3 on panel

2—1/4in. dowels.

Wing Section—full-size.

FIG. 6 ALTERNATIVE 2-WHEEL TYPE OF U/C, WHICH CAN BE FIXED IN PLACE, OR MADE WITH PLUG-IN FITTING AS SHOWN.

Actual length of wire allowing for rake forward.

1 16in ply

Hardwood pieces

Cement and bolt these parts together

3/16in. x 1/8in spar

16°

Bevel main spar as shown.

FRONT ELEVATION OF WING

Dihedral strip 3/4in. x 1/4in. shaped after assembly.

4°

Note packing

Locating block cemented to wing

FIG. 12 U/SIDE VIEW OF WING-ROOT, SHOWING FIXING BANDS, AND REAR FIXING BLOCK

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